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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,870	12/19/2001	Peter Cooper	1076.41017X00	8801
20457	7590	08/03/2006	EXAMINER	
ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873			MISLEH, JUSTIN P	
			ART UNIT	PAPER NUMBER
			2622	

DATE MAILED: 08/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/020,870	COOPER, PETER	
	Examiner	Art Unit	
	Justin P. Misleh	2622	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 June 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 19 - 39 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 19 - 40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|-----------------------------------------------------------------------------------------|-----------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed June 7, 2006 have been fully considered but they are not persuasive.
2. Applicant mainly argues, “ the appearance of the alleged single composite image quality indicator of Parulski still does not correspond to the number of stable image quality parameters.”
3. The Examiner respectfully disagrees with Applicant's position. Parulski provides an “information display 114” (see figures 33 – 37) for displaying textual warning messages (see column 29, lines 14 – 19). Furthermore, Parulski states that the warnings can be depicted by indicia or images or a combination (see column 28, lines 31 – 34). Moreover, in figures 31a – 31c, Parulski discloses that after an image is captured, a revision suggestion set is generated, saved to memory (see column 27, lines 28 – 31), and subsequently displayed such that each of the revision suggestions in the set are sequentially displayed (see steps 228 and 230 and column 27, lines 40 – 47). Parulski equates the revision suggestion sets to the output quality warnings (see column 28, lines 12 – 15).
4. To exemplify these features, Parulski provides figure 33 to show a situation when no warnings/revisions have been generated (i.e., perfect image) and provides figures 34 – 37 to show a situation when at least one warning/revision has been generated. Based upon this disclosure, Parulski clearly allows a variable number of warnings/revisions per image capture. In other words, if a recently captured image is of poor quality, Parulski determines in real time the problems with the image, *how many* warnings/revisions are needed to correct the image, and

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displays one-by-one each warning/revision. Therefore, whatever warning/revision that is not generated or displayed can be considered a *stable image quality parameter* and for each image there will be a certain number of *stable* and a certain number of *unstable image quality parameters*.

5. Since figure 33 shows that no warnings/revisions have been generated or displayed, the information display (144) essentially corresponds to a situation when ALL of the image quality parameters are stable. Accordingly, since figures 34 – 37 shows that at least one warning/revision has been generated or displayed, the information display (144) essentially corresponds to a situation when ALL minus one of the image quality parameters are stable. Thus, the single indicator (information display 114) of Parulski actually corresponds to a number of stable image quality parameters. Finally, the Examiner notes Parulski does not exactly specify how many total image quality parameters exist; however, the above-analysis clearly indicates there actually is a finite number of image quality parameters.

6. While the Examiner acknowledges the inventions of Parulski and the present application are not in total accordance with one another, the claim language is written broadly enough such that Parulski provides the necessary teachings.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an

international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 19 – 23 and 26 – 39** are rejected under 35 U.S.C. 102(e) as being anticipated by Parulski. The Examiner's response above if fully incorporated into the following rejections.

9. For **Claim 19**, Parulski discloses, as shown in figures 3, 4, 25, 31a – 38, and 49 and as stated in column 12 (line 63) – column 13 (line 20), column 17 (line 19) – column 20 (line 60), column 28 (line 5) – column 29 (line 55), a digital camera comprising:

a single composite image quality indicator (“revision suggestions” and/or “output quality warnings”; also see exemplary figures 32 – 38) configured to represent a plurality of image quality parameters based on a image,

wherein the composite image quality indicator is generated based on data associated with the plurality of image quality parameters (see column 27, lines 26 – 31); and

wherein the appearance of the indicator corresponds to a number of stable image quality parameters (see explanation below); and

a display (26 – again see figures 32 – 38) for displaying the image together with the single composite image quality indicator.

In summary, Parulski indicates in column 18 (lines 37 – 59) and in column 29 (lines 49 – 55), the image quality indicator is based upon an analysis of a combination of exposure and editorial characteristics. Furthermore, Parulski discloses, in column 17 (lines 17 – 33), that the quality indicator is at least based upon brightness and color information within the images and as stated in column 17 (lines 50 – 55) that the quality indicator is based upon the darkness of the image. Finally, Parulski also discloses, as shown in Table 1 and as stated in column 18 (lines 60 – 67), a look-up table (136) associates parameters determined from image analysis with a

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plurality of image quality indicators. Nonetheless, Parulski additionally teaches, in figures 31a – 31c, at Step 214 that a revision set is generated and at Steps 228 – 232 display all the revisions. Therefore, Parulski discloses a single composite image quality indicator representing a plurality of image quality parameters based on an image.

In regards to the *stable image quality parameters*, Parulski provides figure 33 to show a situation when no warnings/revisions have been generated (i.e., prefect image) and provides figures 34 – 37 to show a situation when at least one warning/revision has been generated. Based upon this disclosure, Parulski clearly allows a variable number of warnings/revisions per image capture. In other words, if a recently captured image is of poor quality, Parulski determines in real time the problems with the image, *how many* warnings/revisions are needed to correct the image, and displays one-by-one each warning/revision. Therefore, whatever warning/revision that is not generated or displayed can be considered a *stable image quality parameter* and for each image there will be a certain number of *stable* and a certain number of *unstable image quality parameters*.

Since figure 33 shows that no warnings/revisions have been generated or displayed, the information display (144) essentially corresponds to a situation when ALL of the image quality parameters are stable. Accordingly, since figures 34 – 37 shows that at least one warning/revision has been generated or displayed, the information display (144) essentially corresponds to a situation when ALL minus one of the image quality parameters are stable. Thus, the single indicator (information display 114) of Parulski actually corresponds to a number of stable image quality parameters. Finally, the Examiner notes Parulski does not exactly specify

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how many total image quality parameters exist; however, the above-analysis clearly indicates there actually is a finite number of image quality parameters.

10. As for **Claim 20**, Parulski discloses the image quality indicator indicates whether the image is optimal based on the plurality of image parameters (see column 18, lines 37 – 59, and in column 29, lines 49 – 55).

11. As for **Claim 21**, Parulski discloses wherein the plurality of image parameters includes a light exposure (see column 17, lines 17 – 33).

12. As for **Claim 22**, Parulski discloses wherein the plurality of image parameters includes a white balance (see column 17, lines 17 – 33).

13. As for **Claim 23**, Parulski discloses wherein the plurality of parameters includes a dark reference (see column 17, lines 17 – 33 and 50 – 55).

14. For **Claim 26**, Parulski discloses, as shown in figures 3, 4, 25, 31a – 38, and 49 and as stated in column 12 (line 63) – column 13 (line 20), column 17 (line 19) – column 20 (line 60), column 28 (line 5) – column 29 (line 55), a method of operating a digital camera comprising the steps of:

providing a user interface (122 -- see figure 3) of the camera with a single composite image quality indicator (“revision suggestions” and/or “output quality warnings”; also see exemplary figures 32 – 38) representing a plurality of image quality parameters based on a image,

wherein the composite image quality indicator is generated based on data associated with the plurality of image quality parameters (Se column 27, lines 26 – 31); and

wherein the appearance of the indicator corresponds to a number of stable image quality parameters (see explanation below).

In summary, Parulski indicates in column 18 (lines 37 – 59) and in column 29 (lines 49 – 55), the image quality indicator is based upon an analysis of a combination of exposure and editorial characteristics. Furthermore, Parulski discloses, in column 17 (lines 17 – 33), that the quality indicator is at least based upon brightness and color information within the images and as stated in column 17 (lines 50 – 55) that the quality indicator is based upon the darkness of the image. Finally, Parulski also discloses, as shown in Table 1 and as stated in column 18 (lines 60 – 67), a look-up table (136) associates parameters determined from image analysis with a plurality of image quality indicators. Nonetheless, Parulski additionally teaches, in figures 31a – 31c, at Step 214 that a revision set is generated and at Steps 228 – 232 display all the revisions. Therefore, Parulski discloses a single composite image quality indicator representing a plurality of image quality parameters based on an image.

In regards to the *stable image quality parameters*, Parulski provides figure 33 to show a situation when no warnings/revisions have been generated (i.e., perfect image) and provides figures 34 – 37 to show a situation when at least one warning/revision has been generated. Based upon this disclosure, Parulski clearly allows a variable number of warnings/revisions per image capture. In other words, if a recently captured image is of poor quality, Parulski determines in real time the problems with the image, *how many* warnings/revisions are needed to correct the image, and displays one-by-one each warning/revision. Therefore, whatever warning/revision that is not generated or displayed can be considered a *stable image quality*

parameter and for each image there will be a certain number of *stable* and a certain number of *unstable image quality parameters*.

Since figure 33 shows that no warnings/revisions have been generated or displayed, the information display (144) essentially corresponds to a situation when ALL of the image quality parameters are stable. Accordingly, since figures 34 – 37 shows that at least one warning/revision has been generated or displayed, the information display (144) essentially corresponds to a situation when ALL minus one of the image quality parameters are stable. Thus, the single indicator (information display 114) of Parulski actually corresponds to a number of stable image quality parameters. Finally, the Examiner notes Parulski does not exactly specify how many total image quality parameters exist; however, the above-analysis clearly indicates there actually is a finite number of image quality parameters.

15. As for **Claim 27**, Parulski discloses, as shown in figures 31a – 31c, the step of capturing the image (Step 202).

16. As for **Claim 28**, Parulski discloses, as shown in figures 32 – 37, the step of displaying the image together with the image quality indicator.

17. As for **Claim 29**, Parulski discloses, as shown in figures 31a – 31c, the step of executing one or more algorithms for determining the quality of the image.

18. As for **Claim 30**, Parulski discloses executing at least one algorithm for determining light exposure (see column 17, lines 17 – 33).

19. As for **Claim 31**, Parulski discloses executing at least one algorithm for determining white balance (see column 17, lines 17 – 33).

20. As for **Claim 32**, Parulski discloses executing at least one algorithm for determining a dark reference (see column 17, lines 17 – 33 and 50 – 55).

21. As for **Claim 33**, Parulski discloses, as shown in figure 31c, determining whether one the one or more algorithms has been found to be stable.

In other words, the Examiner considers Steps 224 – 232 of figure 31c as corresponding to finding a stable solution for the image since during those steps all possible revisions are displayed regarding image quality.

22. For **Claim 34**, Parulski discloses, as shown in figure 4 and as stated in columns 9 (lines 23 – 27) and 11 (lines 4 – 50), a computer program stored on a computer readable medium (54) for capturing an image on a digital camera, said computer program, when executed causing the digital camera (figure 4) to perform the above method (Claim 26).

23. As for **Claim 35**, Parulski discloses, as shown in figures 32 – 37, wherein the image quality indicator is located within the image.

24. For **Claim 36**, Parulski discloses, as shown in figures 3, 4, 25, 31a – 38, and 49 and as stated in column 12 (line 63) – column 13 (line 20), column 17 (line 19) – column 20 (line 60), column 28 (line 5) – column 29 (line 55), a method of operating a digital camera comprising the steps of:

providing a user interface (122 -- see figure 3) of the camera with a single composite image quality indicator (“revision suggestions” and/or “output quality warnings”; also see exemplary figures 32 – 38) representing a plurality of image quality parameters based on a image wherein the composite image quality indicator is generated based on data associated with the plurality of image quality parameters; and

determining whether one the one or more algorithms has been found to be stable (see figure 31c), wherein the appearance of the indicator corresponds to a number of stable image quality parameters (see explanation below).

In other words, the Examiner considers Steps 224 – 232 of figure 31c as corresponding to finding a stable solution for the image since during those steps all possible revisions are displayed regarding image quality.

In summary, Parulski indicates in column 18 (lines 37 – 59) and in column 29 (lines 49 – 55), the image quality indicator is based upon an analysis of a combination of exposure and editorial characteristics. Furthermore, Parulski discloses, in column 17 (lines 17 – 33), that the quality indicator is at least based upon brightness and color information within the images and as stated in column 17 (lines 50 – 55) that the quality indicator is based upon the darkness of the image. Finally, Parulski also discloses, as shown in Table 1 and as stated in column 18 (lines 60 – 67), a look-up table (136) associates parameters determined from image analysis with a plurality of image quality indicators. Nonetheless, Parulski additionally teaches, in figures 31a – 31c, at Step 214 that a revision set is generated and at Steps 228 – 232 display all the revisions. Therefore, Parulski discloses a single composite image quality indicator representing a plurality of image quality parameters based on an image.

In regards to the *stable image quality parameters*, Parulski provides figure 33 to show a situation when no warnings/revisions have been generated (i.e., prefect image) and provides figures 34 – 37 to show a situation when at least one warning/revision has been generated. Based upon this disclosure, Parulski clearly allows a variable number of warnings/revisions per image capture. In other words, if a recently captured image is of poor quality, Parulski

determines in real time the problems with the image, *how many* warnings/revisions are needed to correct the image, and displays one-by-one each warning/revision. Therefore, whatever warning/revision that is not generated or displayed can be considered a *stable image quality parameter* and for each image there will be a certain number of *stable* and a certain number of *unstable image quality parameters*.

Since figure 33 shows that no warnings/revisions have been generated or displayed, the information display (144) essentially corresponds to a situation when ALL of the image quality parameters are stable. Accordingly, since figures 34 – 37 shows that at least one warning/revision has been generated or displayed, the information display (144) essentially corresponds to a situation when ALL minus one of the image quality parameters are stable. Thus, the single indicator (information display 114) of Parulski actually corresponds to a number of stable image quality parameters. Finally, the Examiner notes Parulski does not exactly specify how many total image quality parameters exist; however, the above-analysis clearly indicates there actually is a finite number of image quality parameters.

25. As for **Claim 37**, Parulski discloses, as shown in figures 31a – 31c, the step of executing one or more algorithms for determining the quality of the image.

26. As for **Claim 38**, Parulski discloses, as shown in figure 31c, determining whether one the one or more algorithms has been found to be stable.

In other words, the Examiner considers Steps 224 – 232 of figure 31c as corresponding to finding a stable solution for the image since during those steps all possible revisions are displayed regarding image quality. Since Parulski generates and displays all possible revisions

in an iterative process, the Examiner considers the method of figures 31a- 31c as determining if one or more algorithms converge.

27. As for **Claim 39**, Parulski discloses executing at least one algorithm for determining light exposure (see column 17, lines 17 – 33); and Parulski also discloses executing at least one algorithm for determining white balance (see column 17, lines 17 – 33); and finally Parulski discloses executing at least one algorithm for determining a dark reference (see column 17, lines 17 – 33 and 50 – 55).

Claim Rejections - 35 USC § 103

28. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

29. **Claims 24 and 25** are rejected under 35 U.S.C. 103(a) as being unpatentable over Parulski.

30. As for **Claim 24 and 25**, Parulski teaches a camera capable of displaying an image quality warning; however, Parulski does not expressly disclose that the camera is housed in a mobile communications device.

However, **Official Notice** (MPEP § 2144.03) is taken that both the concepts and advantages of incorporating digital cameras into other devices, such as mobile telephone handsets are well known and expected in the art. At the time the invention was made, it would have been obvious to one with ordinary skill in the art to have incorporated digital cameras into

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other devices, such as mobile telephone handsets for the advantage or transmitting images for printing or permanent storage.

Cited Prior Art

31. The prior art made of record and not relied upon is considered pertinent to Applicant's disclosure for at least following reasons:

- **Venturino et al.** disclose an image quality indicator superimposed together with image data on a display screen in a digital camera.

Conclusion

32. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


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33. Any inquiry concerning this communication or earlier communications from the Examiner should be directed to Justin P Misleh whose telephone number is 571.272.7313. The Examiner can normally be reached on Monday through Friday from 8:00 AM to 5:00 PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor, Vivek Srivastava can be reached on 571.272.7304. The fax phone number for the organization where this application or proceeding is assigned is 571.273.3000.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JPM
July 28, 2006



VIVEK SRIVASTAVA
PRIMARY EXAMINER